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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/563,778

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Naoya Saiki

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THE WEBB LAW FIRM, P.C.
700 KOPPERS BUILDING
436 SEVENTH AVENUE
PITTSBURGH, PA 15219

EXAMINER

CHANG, VICTOR S

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

03/09/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/563,778	Applicant(s) SAIKI, NAOYA	
	Examiner VICTOR S. CHANG	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 6-17 is/are pending in the application.
- 4a) Of the above claim(s) 7 and 13-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 6 and 8-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Introduction

1. Applicants' amendments and remarks filed on 1/23/2009 have been entered. Claims 1 and 8-12 have been amended. Claims 2-5 have been cancelled. Claims 1, 6 and 8-12 are active.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. In response to the amendments, the grounds of rejection have been updated as set forth below. Rejections not maintained are withdrawn.

Rejections Based on Prior Art

4. Claims 1, 6 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 08-239636 [machine translation] in view of Komiyama et al. [US 5110388].

JP '636 relates to a hardenable pressure-sensitive adhesive tape for dicing and die bonding [abstract]. The adhesive tape comprises an adhesive layer and a substrate [0071]. The adhesive layer comprises a (A) hardening type adhesive component, a (B) heat-curing type adhesion components, and a (C) flexibility ingredient [0015]. The (A) component has molecular weight of 100000 or more [0016-0017], (B) component comprising a thermosetting component of epoxy resin [0018], and (C) component comprising a thermoplastic polyester resin having a glass transition temperature at 67°C, etc. [0035-0041]. The surface tension of the substrate is 40 or less dyne/cm [0073].

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JP '636 is silent about 1) the acrylic copolymer pressure sensitive adhesive containing repeating units derived from vinyl acetate, 2) the ratio of modulus over temperatures, and 3) the weight ratio between the acrylic adhesive and the thermoplastic resin. However, regarding 3), Komiyama's invention relates to a dicing and die bonding adhesive tape [abstract]. Komiyama teaches that useful adhesives include various acrylate polymer, such as a homopolymer of a (meth)acrylate, or it may be a copolymer of at least one (meth)acrylate and at least one comonomer copolymerizable therewith containing at least 50 mol % of units derived from said at least one (meth)acrylate. Examples of the comonomer include vinyl acetate [col. 3, ll. 34-43]. It would have been an obvious modification to one of ordinary skill in the art of dicing and die bonding adhesive to substitute the (A) component of JP '636 with an acrylic copolymer of vinyl acetate, because the selection of a known functionally equivalent material based on its suitability for its intended use supported a *prima facie* obviousness determination. See MPEP § 2144.07. Regarding 2), since the collective teachings of prior art render the composition of the claimed invention obvious, as set forth above, and for the same end use as the claimed invention, a workable modulus ratio over temperatures are deemed to be an obvious routine optimization to one of ordinary skill in the art, motivated by the desire to obtain required properties for the same end use. Regarding 3), similarly, a workable weight ratio between the acrylic adhesive and the thermoplastic resin is deemed to be an obvious routine optimization to one of ordinary skill in the art, motivated by the desire to obtained adequate beneficial effect of the thermoplastic resin.

Double Patenting

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5. Claims 1-6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 2 of copending Application No. 11/083205. Although the conflicting claims are not identical, they are not patentably distinct from each other because they obviously read on each other as claimed.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

6. Claims 1-6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3 of copending Application No. 11/596427. Although the conflicting claims are not identical, they are not patentably distinct from each other because they obviously read on each other as claimed.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

7. Claims 1-6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 11/805457. Although the conflicting claims are not identical, they are not patentably distinct from each other because they obviously read on each other as claimed.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

8. Claims 1-6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2 and 5 of copending Application No. 11/945769. Although the conflicting claims are not identical, they are not patentably distinct from each other because they obviously read on each other as claimed.

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This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

9. Claims 1-6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 12/055427. Although the conflicting claims are not identical, they are not patentably distinct from each other because they obviously read on each other as claimed.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

10. Claims 1-6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 12/144912. Although the conflicting claims are not identical, they are not patentably distinct from each other because they obviously read on each other as claimed.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

11. Applicants argue at page 7

As indicated in Table 2 of the specification, pressure-sensitive adhesive layers comprising the above specific composition and thereby having a ratio of (M100/M70) being 0.5 or less were superior in embedding properties at die bonding (as well as dicing properties, package reliability, and board mounting reliability).

In contrast, JP '636 and Komiyama et al. do not disclose or anticipate the above specific composition used for the pressure-sensitive adhesive layer of amended claim 1. The composition for forming a pressure-sensitive adhesive layer of JP '636 contains a flexible component (C). Therefore, the pressure-sensitive adhesive layer of JP '636 has a low modulus of elasticity at 100°C (M100) and also has a low modulus of elasticity at 70°C (M70), that is to say, both of M100 and M70 are low. Hence, M100/M70 of JP '636

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is not as small as that of the present invention. Furthermore, JP '636 and Komiyama et al. do not anticipate that the pressure-sensitive adhesive layers comprising the claimed composition (and thereby having a ratio (M100/M70) of 0.5 or less) is superior in embedding properties at die bonding.

However, the (C) component of JP '636 comprises a thermoplastic polyester resin having a glass transition temperature at 67°C, which reads on the limitation “a thermoplastic resin having a glass transition temperature of 60 to 150°C” in claim 1 of the claimed invention. Since the collective teachings of prior art render the composition of the claimed invention obvious, as set forth above, and for the same end use as the claimed invention, a workable modulus ratio over temperatures are deemed to be an obvious routine optimization to one of ordinary skill in the art, motivated by the desire to obtain required properties for the same end use.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to VICTOR S. CHANG whose telephone number is (571)272-1474. The examiner can normally be reached on 7:00 am - 5:00 pm, Tuesday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Victor S Chang/
Primary Examiner, Art Unit 1794